

CLAIMS

1 1. A male connector component for bundled optical fibers, comprising:
2 a ferrule holding a plurality of optical fibers, including a central optical fiber and outer,
3 symmetrically disposed optical fibers, said plurality of optical fibers being fixedly held relative
4 to each other within said ferrule;
5 an alignment sleeve having a central axis thereof, and wherein said central optical fiber is
6 disposed along said central axis of said alignment sleeve;
7 an alignment member being formed on said alignment sleeve; and
8 wherein a central axis of said central optical fiber and a central axis of at least one said
9 outer optical fibers are disposed in a straight line alignment with said alignment member of said
10 alignment sleeve.

1 2. A male connector component as described in claim 1 wherein a central axis of said
2 central optical fiber and the central axis of two said outer optical fibers are disposed in a straight
3 line alignment with said alignment member of said alignment sleeve.

1 3. A male connector component as described in claim 1 wherein said alignment member
2 comprises an alignment key that projects radially outward from an outer surface of said
3 alignment sleeve.

1 4. A male connector component as described in claim 1 wherein said ferrule is engaged
2 within a ferrule holding sleeve, and said ferrule holding sleeve is engaged within said alignment
3 sleeve.

1 5. A male connector component as described in claim 4 wherein said ferrule is slidably
2 engaged within said ferrule holding sleeve such that rotational movement of said ferrule relative
3 to said ferrule holding sleeve is prevented, while axial motion of said ferrule within said ferrule
4 holding sleeve is permitted.

1 6. A male connector component as described in claim 5 wherein said ferrule holding sleeve
2 is fixedly engaged with said alignment sleeve.

1 7. A connector for bundled optical fibers, comprising:

2 a first male connector component including:

3 a first ferrule holding a plurality of optical fibers, including a central optical fiber and
4 outer, symmetrically disposed optical fibers, said plurality of optical fibers being fixedly held
5 relative to each other within said first ferrule;

6 a first alignment sleeve having a central axis thereof, and wherein said central optical
7 fiber of said first ferrule is disposed along said central axis of said first alignment sleeve;

8 a first alignment member being formed on said first alignment sleeve;

9 wherein a central axis of said central optical fiber of said first ferrule and a central axis of
10 at least one said outer optical fibers of said first ferrule are disposed in a straight line alignment
11 with said first alignment member of said first alignment sleeve;

12 a second male connector component, including:

13 a second ferrule holding a plurality of optical fibers, including a central optical fiber an
14 outer, symmetrically disposed optical fibers, said plurality of optical fibers being fixedly held
15 relative to each other within said second ferrule;

16 a second alignment sleeve having a central axis thereof, and wherein said central optical
17 fiber of said second ferrule is disposed along said central axis of said second alignment sleeve;
18 a second alignment member being formed on said second alignment sleeve;
19 wherein a central axis of said central optical fiber of said second ferrule and a central axis
20 of at least one said outer optical fibers of said second ferrule are disposed in a straight line
21 alignment with said second alignment member of said second alignment sleeve; and
22 a connector sleeve including a bore for the slidable engagement of said first and second
23 male connector components therewithin, said sleeve including two opposed key slots, wherein an
24 alignment key of said first male connector component and an alignment key of said second male
25 connector component are slidably disposed within said two slots to align said optical fibers
26 within said first and second male connector components together.

1 8. A connector as described in claim 7 wherein said optical fibers within said first ferrule
2 are color coded, and wherein said optical fibers within said second ferrule are color coded in a
3 mirroring relationship to the color coded optical fibers of said first ferrule.

1 9. A connector as described in claim 7 wherein said first alignment member comprises said
2 alignment key of said first male connector component, and wherein said alignment key of said
3 first male connector component projects radially from an outer surface of said first alignment
4 sleeve.

1 10. A connector as described in claim 7 wherein said second alignment member comprises
2 said alignment key of said second male connector component, and wherein said alignment key of

3 said second male connector component projects radially from an outer surface of said second
4 alignment sleeve.

1 11. A connector as described in claim 7 wherein said first ferrule is engaged within a first
2 ferrule holding sleeve, and said first ferrule holding sleeve is engaged within said first alignment
3 sleeve.

1 12. A connector component described in claim 7 wherein said second ferrule is engaged
2 within a second ferrule holding sleeve, and said second ferrule holding sleeve is engaged within
3 said second alignment sleeve.

1 13. A connector as described in claim 11 wherein said first ferrule is slidably engaged within
2 said first ferrule holding sleeve such that rotational movement of said first ferrule relative to said
3 first ferrule holding sleeve is prevented, while axial motion of said first ferrule within said first
4 ferrule holding sleeve is permitted.

1 14. A connector as described in claim 12 wherein said second ferrule is slidably engaged
2 within said second ferrule holding sleeve such that rotational movement of said second ferrule
3 relative to said second ferrule holding sleeve is prevented, while axial motion of said second
4 ferrule within said second ferrule holding sleeve is permitted.

1 15. A connector as described in claim 13 wherein said first ferrule holding sleeve is fixedly
2 engaged with said first alignment sleeve.

- 1 16. A connector as described in claim 14 wherein said second ferrule holding sleeve is
- 2 fixedly engaged with said second alignment sleeve.